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AUTHOR Hartig, William R.
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ABSTRACT

A major problem identified in the current, manually kept high school attendance system is the inability to handle the large volune of daily information. This ineffectual data management is reflected by the high absentee and tardy rates. Additionally, this failure to produce current and timely reports hinders class cut reporting. This is evidenced in both class attendance rates and discipline office referrals. The attached documentation delineates a method to improve attendance reporting efficacy by utilizing a computer based information system to handle the routine data manipulation. The study reported on herein was funded under ESEA Title III. (Author)

ED 075957

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JUN 7 1973

Trenton Public Schools
Trenton, New Jersey

RAMA - Recursive Attendance Monitoring and Analysis

by

William R. Hartig
Systems Analyst

August, 1972

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EA 005 206

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Introduction

By more fully utilizing the potential of the computer for data processing and analysis, RAMA belongs to a new generation of pupil accounting systems. In addition to the mundane preparation of daily attendance rosters and state attendance registers, RAMA provides several unique analytical reporting sub-systems for attendance counseling. Instead of the usual five or thirty day recording period, RAMA captures daily attendance data for each student for an entire school year. This comprehensive recording period allows the continual monitoring and analysis of each student's attendance for an entire school year. In a departure from typical accounting system design, RAMA not only provides notification of abnormal attendance patterns, but also requires feedback from involved personnel as to the outcome of each referral. This bi-directional information flow is the key to a viable, functional attendance system.

Attendance Reporting System

Problem Definition:

The attendance reporting system will produce timely reports necessary for the daily functioning of the high school attendance office. The system will maintain cumulative student attendance records for the entire year and will automatically select students for attention based on analysis criteria supplied by the attendance office. In all cases, the attendance records office is responsible for the collection and maintenance of the attendance information stored at the computer center. The computer center provides an information managing service for the attendance office. In addition, the system will generate input for the overall student information system. Following are summary descriptions of the reporting systems required (see attached sheets for detailed descriptions and information flow).

Report	Freq.	Utilization	Input	Dist'n
Attendance Roster	Daily	Indicates "official" absences & tardies for day	Homeroom	All teachers & offices
Action List	Daily	Indicates students for attention (based on criteria)	Cumulative Record	Attendance Office
Irregular Attendance Analysis	Weekly & Monthly	Shows student's attendance pattern for year to date, total absences and tardies	Cumulative Record	Attendance Office
File Maintenance Transactions	Periodic	Displays previous information, new information on individual student changes	Attendance Records Office	Attendance Records Office
Current File Status	Periodic	Displays entire student attendance record file for year to date	Cumulative Records	Concerned Offices

Attendance System - Detailed report descriptions

Attendance Roster - Input from Attendance Records Office, distribution to all teacher's and offices. The attendance roster is an alphabetic listing of all students not present during homeroom period, signed-in tardy students, and suspended students. This report will have the highest production priority in order to have it distributed at the earliest possible time. The attendance records office will be responsible for collecting and verifying the data used to prepare this report. The daily attendance roster will be the official document for determining classroom attendance for that date. A student who is absent from class and whose name does not appear on the roster will be recorded as "cutting" that class. The cut reports will be sent to the attendance office for processing in the regular manner. The computer-based attendance system will not process class "cuts". The attendance office will continue to process these infractions under the existing procedures.

Action List - Input from cumulative records, distribution to attendance office. This turnaround document indicates students having met various attendance criteria. The criteria set by the attendance office are:

Absences	Action
5	Home visit
10	School Attendance Bulletin
15	Five Day Legal Notice
20	Court Complaint

The lists will be alphabetic within the particular action. That is, all the home visits will be in alpha order, then all the attendance bulletins will be in alpha order, etc.. The high school attendance office will determine which students are to contacted. The attendance records office is responsible for the distribution of the action lists. If any inaccuracies are detected, the concerned office will notify the attendance records office in writing so that the appropriate measures can be instituted. The action list incorporates a five school day response period within which the system expects feedback from the attendance office regarding parent/guardian contact by the counselors. The lists have fields for the attendance office to indicate contact (or lack thereof), and any remarks. The completed form is returned to the computer center for processing. If the response period expires before the report is returned, the computer will automatically relist the student on the next day's action list. If the student's absences have increased to the next criteria level before the attendance office reports back, the student is indicated for action at the

next criteria level. With this approach, it will be much more difficult to "lose" a student due to inaction at the attendance office.

Irregular Attendance Analysis - Input from cumulative records, distribution to attendance office. This report is an alphabetic listing of the individual student's attendance and tardy patterns for the year to date. The absences and tardies will be indicated on a school day basis. That is, the report will indicate the number of Mondays, Tuesdays, Wednesdays, etc. that the student was absent or tardy. In addition, the year to date absences and tardies are indicated. This report will allow the attendance office to determine if the student is establishing patterns of absenteeism, such as Mondays and Fridays, or that he is tardy on Mondays. Because this report provides an analysis of attendance on a weekly frame, any changes in the student's attendance patterns should be readily apparent.

File Maintenance Transactions - Input from the attendance records office, distribution to the attendance office. The transaction listing indicates changes made to an individual student's attendance record. The file maintenance procedures allow the attendance data to be changed for any school day, for the transfer-in of new students, or for the deletion (transfer-out or withdrawal) of existing students. The attendance records office will be notified by the appropriate offices regarding addition or deletion of students. The attendance update notifications will be in written form from the concerned offices or individuals. The attendance records office will monitor the file maintenance transactions to insure the accuracy of the file maintenance run. File maintenance will be performed on an as-needed basis, producing a transaction listing. The attendance records office will post the verified transaction listing to its copy of the Current File Status (see next description) to insure agreement of its records with the computer center's records.

Current File Status - Input from cumulative records, distribution to concerned offices. The Current File Status reports serves both an information retrieval function and a file maintenance function. The report displays the student's attendance record on a year to date basis, indicating the number of absences/tardies, dates, and other appropriate information.

In the file maintenance function, the report will be used by the attendance records office and the computer center to verify the accuracy of the attendance file. The attendance records office will be responsible for the attendance file accuracy. Any modifications to the file will be handled through file maintenance procedures (see above description). The status report will be produced on a periodic basis, superseding the previous listing to provide the most current information to the concerned offices.

In the information retrieval function, the report will optionally list either the entire file or specifically requested student records. The attendance records office will distribute the retrieval function on a need to know basis, depending on the requesting office.

Attendance System - Data collection information flow

I. Absentees. Source: Homeroom attendance.
Destination: Attendance records office.

A. Homeroom.

1. Each homeroom will be provided with a set of student attendance cards and an attendance card envelope.
2. The homeroom teacher will report attendance by placing the absent student's attendance card in the front pocket of the attendance envelope. The attending students' cards will be placed in the rear pocket of the envelope.
   a. Note that all the attendance cards for a homeroom are put in the attendance envelope.
3. Every homeroom will submit its attendance envelope daily, even if no student is absent from that homeroom.
4. The teacher will record homeroom rollbook attendance in the regular manner.
5. Each week, the homeroom teacher will check the rollbook against the computer listings. The teacher will notify the attendance records office in writing in case of a discrepancy.

B. Transmission of homeroom data.

1. Each building or group of homerooms will be assigned an attendance office employee. This employee will verify the delivery of all the homeroom attendance envelopes under his jurisdiction.
2. At the end of homeroom period, the homeroom teacher will send the attendance envelope to the attendance office via a homeroom student.
3. All homeroom attendance envelopes are to be in the attendance office by the start of the next class period. The attendance office employee will contact the homeroom teacher (or substitute) for any missing attendance envelopes.
4. The complete set of attendance envelopes will be delivered to the attendance records office for processing.
5. After all processing is completed, the attendance envelopes will be returned to the homeroom teachers prior to the start of the next school day.

II. Tardies. Source: Tardy sign-in desk.
Destination: Attendance records office.

A. Tardy sign-in procedure.

1. The current daily sign-in procedure will capture the student's identification number in addition to name, homeroom and time.
2. At the cutoff time, a copy of the tardy list will be delivered to the attendance records office for processing.
   a. The cutoff time is the beginning of the class period following homeroom period. This means that the attendance envelopes and the tardy list should be arriving in the attendance records office at approximately the same time.
3. After processing, the attendance records office will deliver the sign-in sheet to the attendance office.

Attendance System - Data collection (cont'd.)

III. Suspensions. Source: Office of Student Personnel.
Destination: Attendance office.

A. The attendance records office will be given written notification of suspended students by the attendance office. The attendance office currently receives this information from the Office of Student Personnel.
   1. This notification will include the student identification number, name, homeroom, date of suspension, and expected date of re-enrollment.
   2. When a student re-enrolls, the student personnel office will notify the atterdance office (and consequently the attendance records office) in writing.

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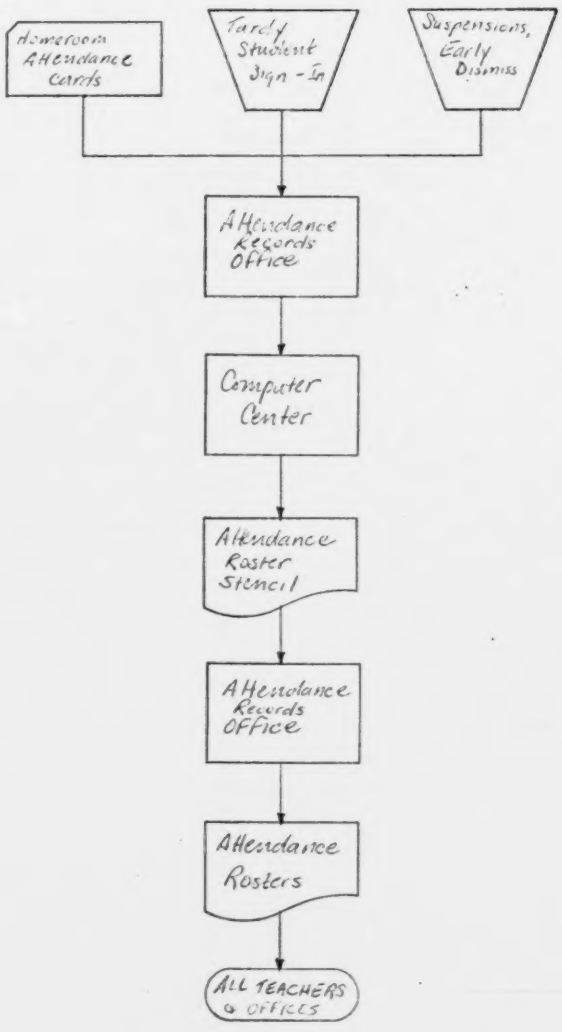
IBM DIAGRAMMING AND CHARTING WORKSHEET

Application _____ Date _____ Page 1 of _____

Procedure ATTENDANCE (ATTENDANCE) Drawn By _____



SEE ATTACHED OUTLINE FOR DETAILED DESCRIPTIONS OF DATA COLLECTION PROCEDURES

ATTENDANCE ROSTERS WILL BE DISTRIBUTED BY STUDENT HELP AS SOON AS THEY ARE PRINTED.

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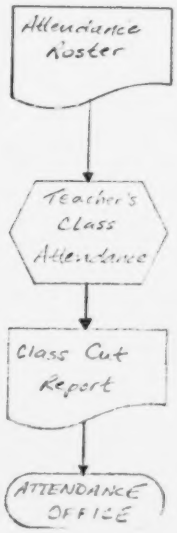
IBM DIAGRAMMING AND CHARTING WORKSHEET

Application ATTENDANCE REPORTING Date _____ Page 2 of _____

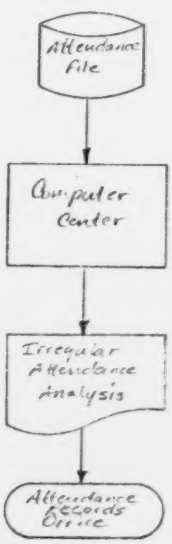
Procedure CLASS CUT REPORTING / ATTENDANCE ANALYSIS Drawn By _____

CLASS CUT REPORTING



THE TEACHER CHECKS EACH CLASS PERIOD ATTENDANCE AGAINST THE ATTENDANCE ROSTER DETERMINING THE VALIDITY OF A STUDENT'S ABSENCE. IF A STUDENT IS ABSENT AND HIS NAME IS NOT ON THE ROSTER, HE IS RECORDED AS "CUTTING" THE CLASS. AT THE END OF EACH DAY, ALL "CUT" LISTS ARE BROUGHT TO THE ATTENDANCE OFFICE FOR PROCESSING.

ATTENDANCE ANALYSIS



ANALYSIS PRODUCED ON WEEKLY AND MONTHLY BASIS.

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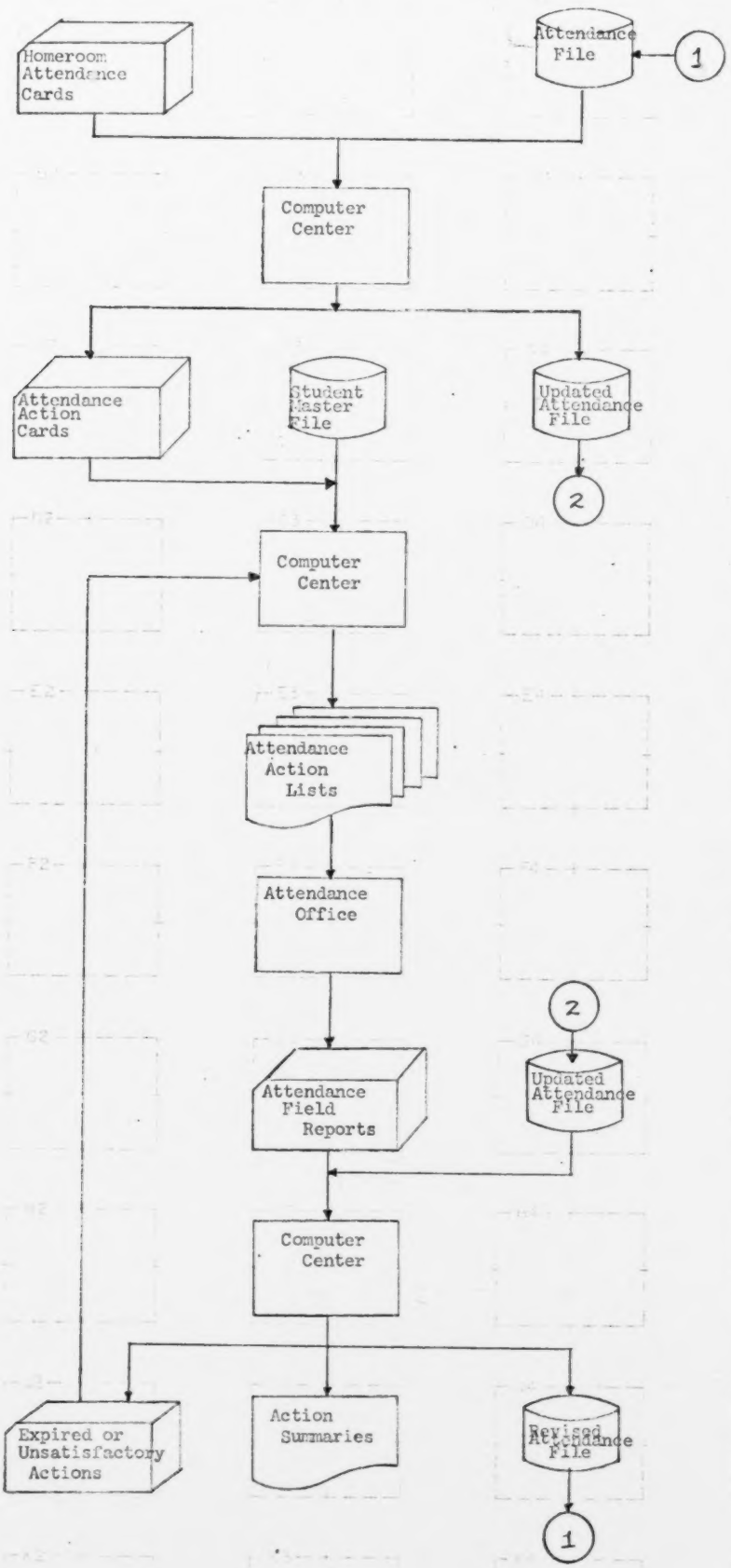
Programmer: _____ Program No.: _____ Date: _____ Page: 3

Chart ID: _____ Chart Name: ATTENDANCE ACTION REPORTING Program Name: _____



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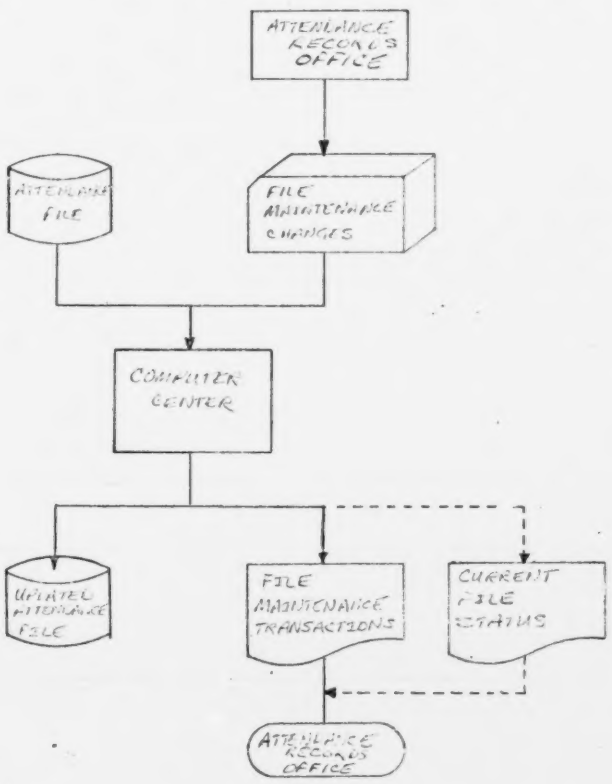
IBM DIAGRAMMING AND CHARTING WORKSHEET

Application ATTENDANCE REPORTING Date _____ Page 4 of _____

Procedure FILE MAINTENANCE - INFORMATION CHANGES Drawn By _____

FILE MAINTENANCE



NOTES:

1) THE RECORDS OFFICE IS RESPONSIBLE FOR PROVIDING THE COMPUTER CENTER WITH HARD-COPY NOTIFICATION OF ATTENDANCE FILE INFORMATION CHANGES. FURTHERMORE, THE RECORDS OFFICE WILL MONITOR THE TRANSACTION LISTING TO VERIFY THE ACCURACY OF THE FILE MAINTENANCE RUN.

2) FILE MAINTENANCE WILL BE PERFORMED ON AN AS NEEDED BASIS TO INSURE FILE ACCURACY.

3) A FILE MAINTENANCE TRANSACTION LISTING WILL BE PRODUCED FOR EVERY FILE MAINTENANCE RUN. A CURRENT FILE STATUS WILL BE PRODUCED (BY ANOTHER PROGRAM) ON A PERIODIC BASIS SUPERSEDING ALL PREVIOUS STATUS AND TRANSACTION LISTINGS.

4) THE FILE MAINTENANCE TRANSACTIONS WILL SHOW ONLY THOSE STUDENTS AFFECTED BY A CHANGE. THE CURRENT FILE STATUS WILL DISPLAY ALL STUDENT RECORDS IN THE FILE ON A YEAR TO DATE BASIS.

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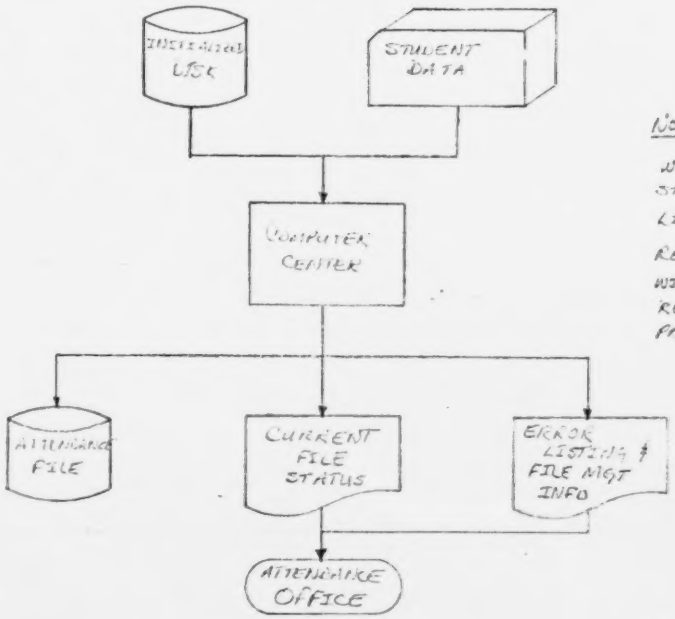
DIAGRAMMING AND CHARTING WORKSHEET

Application ATTENDANCE REPORTING Date _____ Page 5 of _____

Procedure FILE CREATION / INFORMATION RETRIEVAL/FILE BACKUP Drawn By _____

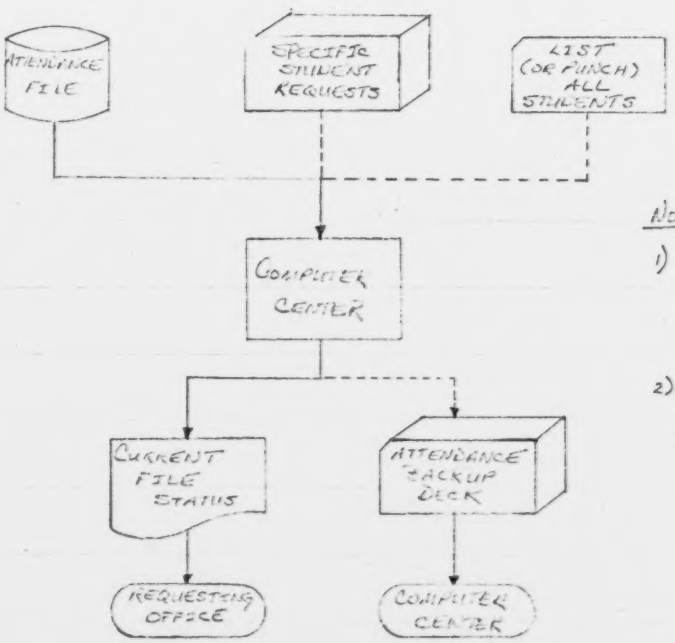
FILE CREATION



NOTE

WHEN THE FILE IS CREATED, A CURRENT FILE STATUS IS PRODUCED. IN ADDITION, AN ERROR LISTING AND FILE MANAGEMENT INFORMATION REPORTS ARE PRODUCED. THE ERROR MESSAGES WILL ALLOW THE ATTENDANCE OFFICE TO RESOLVE ANY POTENTIAL STUDENT INFORMATION PROBLEMS.

INFORMATION RETRIEVAL/FILE BACKUP



NOTES

1) THE INFORMATION RETRIEVAL FUNCTION CAN OPTIONALLY PROVIDE A COMPLETE FILE LISTING OF ALL STUDENTS OR LIST SPECIFICALLY REQUESTED STUDENTS.

2) THE COMPLETE FILE CAN BE PUNCHED INTO CARD FORMAT FOR FILE BACKUP PURPOSES.

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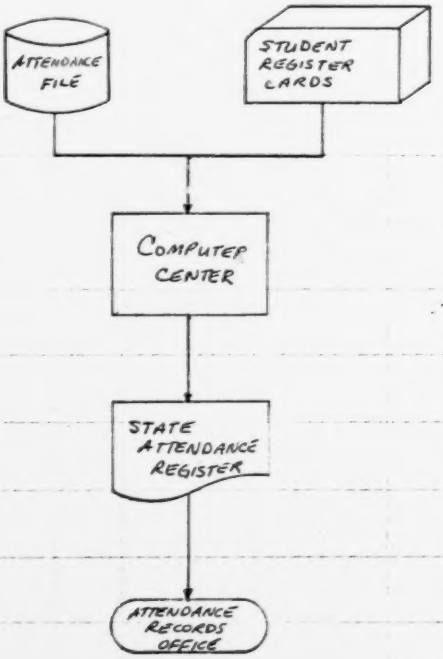
DIAGRAMMING AND CHARTING WORKSHEET

Application _____ Date _____ Page 6 of _____

Procedure STATE REGISTER PREPARATION Drawn By _____



NOTES

1) THE STUDENT REGISTER CARDS CAN BE SORTED INTO ANY SEQUENCE DESIRED TO PRODUCE THE REGISTER IN ANY DESIRED SEQUENCE. TYPICALLY, THE SEQUENCE WOULD BE GRADE BY SEX BY ALPHA. HOWEVER, THE REGISTER COULD EASILY BE ALPHA BY GRADE OR ANY SEQUENCE.

2) THE CONTROL CARDS (ASSOCIATED WITH THE STUDENT REGISTER CARDS) DETERMINE FOR WHAT MONTH THE REGISTER WILL BE PRODUCED. THIS ALLOWS PRODUCTION OF ANY MONTH'S REGISTER AT ANY TIME IN ANY SUCCEEDING MONTH. THIS WOULD BE USEFUL FOR COMPARISON OF DATA OR FOR ERROR-CORRECTION PROCEDURES.

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